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8 October 2018

Mr. Gary Baumgarten
U.S. Environmental Protection Agency (EPA) Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: EA Comments on PRP Draft Remedial Design Work Plan
San Jacinto River Waste Pits Superfund Site
EPA Region 6 Remedial Action Contract 2
Contract: EP-W-06-004

Dear Mr. Baumgarten:

EA Engineering, Science, and Technology, Inc., PBC (EA) is enclosing one hard copy of EA's comments on the PRP Draft Remedial Design Work Plan for the above-referenced Task Order.

EA also transmitted an electronic copy of this submittal to EPA via email.

If you have any questions regarding this Work Plan and Cost Estimate, please call me at (972) 315-3922.

Sincerely,

Brian Yost

Brian Yost, CHMM
Project Manager

Enclosure

cc: Brian Delaney, EPA Contract Officer (letter only)
William G. Johnson Jr., EPA Project Officer (letter only)
Tim Startz, EA Program Manager (letter only via email)
File

100013179

TRANSMITTAL OF DOCUMENTS FOR ACCEPTANCE BY EPA		DATE: **8 October 2018**	TRANSMITTAL NO.: **0002**
TO: **Mr. Gary Baumgarten** **U.S. Environmental Protection Agency Region 6**		FROM: **Tim Startz** **EA Engineering, Science, and Technology, Inc., PBC**	
SUBTASK NO.	DELIVERABLE	NO. OF COPIES	
8.3	EA's Comments on PRP Draft Remedial Design Work Plan	1 Hard Copy Electronic Copy via Email	
ACCEPTANCE ACTION			
DOCUMENTS FOUND ACCEPTABLE (LIST BY SUBTASK NO.)	NAME/TITLE/SIGNATURE OF REVIEWER DATE		

San Jacinto River Waste Pits Superfund Site
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1	General	The ROD identifies a removal-based remedy for the waste materials within the northern and southern impoundments within engineering controls, with Monitored Natural Recovery (MNR) for the Sand Separation Area and Institutional Controls (ICs) as part of the remedy; however, the focus of the RD Work Plan (RDWP) is strictly on the waste materials within the existing impoundments. The RDWP will also need to include the supplementary characterization of sediment areas within the San Jacinto River surrounding the impoundments and the Sand Separation Area given Hurricane Harvey affects to update the understanding of how MNR applies and also to determine if site conditions have changed such that remediation areas warrant modification.	
2	General	The ROD requirement for the RD Work Plan (RDWP) deliverable content among other items, includes the following which appear to need further discussion in the submitted document to provide additional information for EPA consideration: • Plans for implementing all RD activities identified in this SOW, in the RDWP, or required by EPA to be conducted to develop the RD; • A description of the proposed general approach to contracting, construction, operation, maintenance, and monitoring of the RA as necessary to implement the Work; Description of the proposed pre-design investigation (PDI); • Description of any proposed treatability study; • Descriptions of any applicable permitting requirements and other regulatory requirements;	

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		• Description of plans for obtaining access in connection with the Work, such as properly acquisition, property leases, and/or easements.	
3	General	Limited discussion is provided in the RD Work Plan regarding post-Hurricane Harvey site conditions and influences on historical data in terms of changes in bathymetry, and associated changes in historical data based on changes relative to sample elevations. Additionally, changes in surface sediment concentrations and distribution of dioxin/furan in sediment may have occurred. This assessment should be part of the PDI work planning process, including additional characterization of nature and extent of contamination surrounding impoundments, which may require active remediation.	
4	General	Significant use of "as needed", "as necessary", and "if applicable" throughout the RDWP is discouraged. In several cases, this indicates the RDWP elements as optional that are clearly necessary to achieve the requirements of the ROD. As part of the revision, any uses of these qualifiers should have detailed explanation of conditions and decision logic that Respondent intends would eliminate the identified activity.	
5	General	Section 3 and subsequent RD Work Plan – the Sand Separation Area is included in the ROD requiring inclusion of MNR as part of the RD. This should be addressed throughout the RDWP, including additional sampling to delineate extent of contamination to inform RD for both extent of MNR and extent of the northern impoundment remedy.	
6	General	The RD Work Plan identifies an Emergency Response Plan and later refers to the plan including actions during a significant flood event; however, the RDWP does not include discussion of activities that the	

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		Respondent will undertake after a significant flood condition that has exceeded the RD basis of design criteria and engineering controls and therefore flooded the remedy area. This will need to be part of the RD to establish procedures during implementation (following recession of the river), involving damage assessment and repairs, resurvey and additional remediation, and related administrative procedures to negotiate changed conditions with the RA construction contractor.	
7	General	Design approaches will need to include consideration of safety associated with construction worker exposure scenarios that may cause adverse health effects, based on BHHRA results and related studies. Please clarify how work exposure will be minimized within the context of the RD process. This will also need to be covered in the project specifications for contractor health and safety plan requirements.	
8	General	The RDWP should include additional information for access planning, given access coordination will need to be provided early in the project for PDI activities and will continue toward development of access agreements for construction for applicable properties. An initial part of this process is a comprehensive property ownership and mapping activity, which the RDWP does identify as part of the RD, and specifically this comment is to identify this as an important early work element. Significant utilities related to the concrete-paved area bisecting the southern impoundment and utilities routed along I-10 may be present.	
9	General	Limited discussion is provided in the RD Work Plan regarding updates to the ARARs that have been listed for the project in earlier studies. The RDWP has limited discussion regarding integrating the	

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		ARARs consultation with respective agencies to identify the specific requirements for design that will be part of the project's design criteria, and activities to verify compliance with ARAR requirements during RA construction.	
10	General	PDI Work Plan, HASP, QAPP, and related documents will need to include procedures to provide appropriate protections for worker safety during sample collection, handling/management, laboratory testing, and include procedures for management of IDW for appropriate disposal. The RDWP refers to use of the existing HASP; however, given new activities this document should be reviewed and revised appropriately.	
11	General	RD Work Plan will need to include engineer's construction cost estimate for each major deliverable iteration and estimated construction schedule incorporating work of RD, construction, and long-term OMM.	
12	General	The RD Work Plan will need to identify Respondent activities for Community Involvement throughout the process of design consistent with the ROD. This includes identification of the Community Involvement Coordinator per the ROD.	
13	General	Respondent should include a table identifying primary components envisioned for each design deliverable, with specific details where information will be available as has been done throughout the existing RDWP in multiple text sections, but expanded where appropriate, e.g., listing anticipated engineering drawings for the 30 percent deliverable that would be considered applicable at this stage of planning. This table will help facilitate EPA's review by having all design deliverable components listed in one place. Please note that given the significant span of design development inherent with a 30 percent and 90/100 percent design deliverables structure, the 30 percent design will need to include conceptual and schematic design	

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		content for all components of design deliverables and associated supporting documents, for EPA consideration. The ROD refers to specific design deliverables for 30 and 90/100; however, the Respondent should note that EPA reserves the right to require a 60 percent deliverable pending EPA review of the 30 percent design deliverable, given the complexity of the project, which will take into account factors such as progress achieved for the 30 percent design, results of pre-design investigations, and project schedule implications.	
14	General	The RDWP is very generalized in identification of expected data needs. The RDWP should identify in a compiled list or table, presently known major data needs that will be needed to fill RD data gaps to be further detailed in the PDI Work Plan, including sufficient detail in this plan to provide EPA additional perspective on the scope of upcoming work planning. The RDWP will need to better integrate the role of the PDI in the sequence of the RD process.	
15	General	The river adjacent to the site is accessed regularly by navigational users, and areas immediately adjacent to the impoundments are heavily utilized for barge staging. In addition to property owners for access coordination, the RDWP should include consideration of waterway users as an important stakeholder for developing design criteria and requirements for the RA construction contractor to avoid conflicts with navigational uses. The RDWP will need to identify coordination with shippers and other applicable navigation user entities as part of the RD process.	
16	General	Include within the RDWP deliverables, specific mention of all ROD-required deliverables, for example, per the ROD: Institutional Controls Implementation and Assurance Plan. The Institutional Controls Implementation and Assurance Plan (ICIAP) describes	

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		plans to implement, maintain, and enforce the Institutional Controls (ICs) at the Site.	
17	General	Remedial actions that include permanent features that fall within USACE-maintained navigation channels, will require 33 USC 408 (Section 408) review as part of the updated ARARs evaluation.	
18	Introduction, Page 1, pdf pg. 9	Include the Remedial Action Objectives identified in the ROD for site cleanup within RD Work Plan, and indicate the RD process will proceed in a manner that meets RAOs.	
19	Introduction (3rd paragraph), Page 1, pdf pg. 9	The ROD states that MNR is the remedy component for the Sand Separation Area; therefore, sampling to better define nature and extent of contamination relative to this area is an essential component of the RD.	
20	Section 1.3, Page 3, pdf pg. 11	Summary description of the ROD should identify approximate quantities of waste materials anticipated to be exceeding the 30 ng/kg TCDD TEQ below the armored cap in northern impoundment (162,000 cy) and exceeding paper mill waste material soil cleanup goal of 240 ng/kg TEQ to a depth of 10 ft in southern impoundment (50,000 cy). The Selected Remedy description in the ROD also includes identification of Institutional Controls (ICs) to prevent disturbance of the certain areas (e.g., dredging and anchoring in the Sand Separation Area). ICs may apply to both impoundments, and any other applicable areas.	
21	Section 1.3.1 (1st paragraph), Page 3, pdf pg. 11	The RDWP indicates a detailed review of ARARs will be conducted and included with the RD deliverables. Please note the ARARs will need to be evaluated as part of the RD process, and consultations with respective agencies will need to begin early in the RD to determine design requirements for design criteria development. The major design deliverables for the project (30 percent design and	

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		90/100 percent designs), will need to have addressed ARARs requirements for the design.	
22	Footnote 1, Page 3, pdf pg. 11	The RDWP should acknowledge that the OMM Plan will be subject to further addenda as part of the RD process.	
23	Section 1.4 (paragraph following bullet items), Page 4, pdf pg. 12	Revise "...whether and how the substantive provisions of water quality ARARs, such as TSWQS, can be achieved" to state how the RD process will further study and ultimately comply with the ARAR. The RDWP identifies the concern of the TSWQS dioxin/furans surface water quality requirement of 0.0797 pg/L TEQ, but is not specific with strategies to be employed to further develop this requirement with treatability studies. Among treatability testing to be proposed, the Respondent should consider a modified elutriate test subjected to high efficiency water treatment unit processes with dioxin analyzed for each step of treatment. Additional, the RDWP will need to clarify that water quality during removal operations and water quality regarding effluent discharge are both important components the RD process.	
24	Section 2.1.3.2.2, Page 8, pdf pg. 16.	Project materials indicate some debris may occur within the Southern Impoundment, which may factor into investigation needs and RD for engineering controls, such as needs for pre-trenching.	
25	Section 2.2.2, Page 9, pdf pg. 17.	Depth weighted averages have been used in project materials to depict dioxin/furan TEQ subsurface soil concentrations within the upper 10 feet of soil; however, the ROD RAO requirement for the southern impoundment is 240 ng/kg stated as a discrete value, which would signify a point-by-point cleanup requirement based on individual sample results.	

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26	Section 2.6 (2nd paragraph), Page 12, pdf pg. 20	The RDWP states a "…few shrubs and trees…" occurs among low-lying grasses adjacent to the southern impoundment. To the extent restoration of upland vegetation becomes part of the RD, the RDWP should identify that vegetation survey will be considered for uplands.	
27	Section 2.7, Page 12, pdf pg. 20	The RDWP indicates impacts to cultural and archaeological resources are considered unlikely based on work during the RI/FS phase of the project; however, during RD the ARARs evaluation will need to provide further assessment, requiring the identification of National Registered Historical properties and eligible properties near the site, to determine if the RD will impact these resources. This may include both desktop study, as well as data collection applicable for Section 4 (if properties or resources are identified that would trigger additional ARARs consistent with National Historical Preservation Action Section 106 requirements).	
28	Section 3.1 (1st paragraph), Page 13, pdf pg. 21	Remove "as needed" from list of RD design components. This list would also include identification of Monitored Natural Recovery areas; Construction Quality Assurance; Operation, Maintenance, and Monitoring, and Institutional Controls.	
29	Section 3.1 (3rd set of bullet items), Page 13pdf pg. 21	The Respondent identifies the three TWGs required by the ROD by listing them, but does not provide additional context or the planned approach to coordinate and ultimately integrate the recommendations of these independent groups. Clarify the purpose of each of the TWGs to provide additional context within the RDWP (descriptions are available in the ROD), and state the Respondents plans regarding these independent groups.	
30	Section 3.1 (final paragraph), Page 13, pdf pg. 21	The Respondent identifies the TSWQS of 0.0797 pg/L TEQ again as a substantive requirement requiring treatability study to inform RD. Additional plans for treatability study should be described; further, the last sentence indicates some treatability study and RD activities	

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		can progress in parallel "...without compromising the design process." The Respondent will need to expand upon the strategy of of treatability testing during RD. Additionally, for addressing this design issue and others involving treatability testing, this section should provide EPA the range of potential treatability testing under consideration with anticipated schedule within the RD timeline for each, providing advantages/disadvantages for different testing approaches for EPA consideration.	
31	Section 3.3.1, Page 15 (3rd. paragraph), pdf pg. 23	The Respondent indicates the use of backfill to restore current elevations in the northern impoundments may not be considered necessary to improve flood storage. While flood control is a regional goal, the subject site's potential alternations would constitute a negligible part of that goal, and depending on approaches taken in the RD, the need for post-excavation residuals management may be required, or other considerations such as shoreline stability that could involve backfilling; further, the ARARs evaluation for RD may identify additional considerations influencing post-remedy final grades that are a priority for the site, such as creating appropriate habitat conditions compatible with the remedy and establishment of Institutional Controls.	
32	Section 3.5, Page 16, pdf pg. 24	This section of the RDWP presents engineering controls for design, which would include engineered barriers to support the removal of waste materials and sediment. Other engineering controls may apply that would be applicable under this general category. The types of engineered barriers that will be subject to evaluation should be identified within this section of the RDWP. For example, a sheet pile wall with sealed interlocks would be an applicable engineered barrier, which has precedent on other sediment remediation projects to support excavations while separating erodible/transportable media from the river.	

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33	Section 3.5, Page 16, pdf pg. 24	The RD process for engineering controls will be a significant component, and will need to include appropriate data collection, hydrodynamic modeling, and design of scour protection measures outside engineering control structures. Once the cross section for flow is reduced, channel erosion is a likely outcome; additionally, localized scour erosion immediately adjacent to controls will be an important RD design consideration to protect the engineering controls, likely requiring armoring systems such as protective mats. Regarding assessment of channel erosion due to engineering controls, and local scour adjacent to structures, the RDWP will need to elaborate on these issues, and include in appropriate data collection for post-Hurricane Harvey conditions to evaluate river bed sediment stability and support RD evaluations for scour/erosion protection measures adjacent to structures (for example for the latter, bearing stability of sediment to support the RD of scour/erosion protection measures such as mats, or other approaches).	
34	Section 3.5, Page 16, pdf pg. 24	The RD process for engineering controls will likely require groundwater flow modeling and appropriate treatment of groundwater. In Section 5.2.4.2, the RDWP mentions the need to consider groundwater plume movement. The RDWP does not discuss the significance of existing groundwater quality data and considerations for the basis of RD, nor does it identify sampling and modeling needs. Please expand on the need for groundwater data collection, groundwater flow parameter measurement, and groundwater modeling in PDI and RD discussions.	
35	Section 3.5.1.1, Page 17, pdf pg. 25	The RDWP identifies contingency measures in response to weather events expected as part of the RD, such as provisions for controlled flooding during response to high water, and damage from vessel impact. These measures would be part of an overall process of evaluation to set the top elevation of engineering controls to an	

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		appropriately protective elevation. Additionally, the RD should address post-flooding measures that will be required to assess as repair damaged areas of the remedy following flooding.	
36	Section 3.5.2, Page 17, pdf pg. 25	The Respondent alludes to RD potentially including in-wet excavation for the northern impoundments without dewatering the excavation area as a potential approach. However, for the purpose of adequately comparing this approach with an in-dry excavation approach, for PDI and RD planning, the Respondent will need to include an in-dry excavation approach in RD through the 30 percent design for EPA consideration of advantages/disadvantages with each.	
37	Section 3.5.2.1, Page 18, pdf pg. 26	For contingency measures in the southern impoundment that would include in the wet excavation, and associated residuals management, the PDI work plan will need to include appropriate data to inform RD process, e.g., to design material gradation and layer thickness protective for long-term isolation of residuals from the surrounding environment, and protective armoring layer for future hurricanes and floods.	
38	Section 3.6.1, Page 18, pdf pg. 26	The Respondent will need to include appropriate PDI data collection to representatively develop the needs for dewatering for an in-dry excavation approach, for EPA's consideration in comparison to an in-wet excavation approach, including needs for groundwater and stormwater treatment.	
39	Section 3.6.2 (1st paragraph), Page 18, pdf pg. 26	Please provide additional clarification and supporting information regarding statement that variable flow conditions are less amenable to high-efficiency treatment, and describe how the RD will manage this consideration, such as batch storage to regulate influent flow rates.	

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40	Section 3.6.2 (2nd paragraph), Page 19, pdf pg. 27	A water treatment alternatives analysis will be an important component of the 30 percent design deliverable, and therefore PDI and RD Work Plans. Both on-site treatment and off-site disposal options will need to be evaluated for feasibility, advantages/disadvantages identified, for EPA consideration. For instance, it is difficult to envision a Publically Owned Treatment Works permitted effluent discharge would be compatible with the site's waste stream, without significant pre-treatment beforehand.	
41	Section 3.6.2 (3rd paragraph), Page 19, pdf pg. 27	EPA acknowledges the challenge presented by the TSWQS criterion. Additionally that analytical testing quantitation limit and reporting limits will be reporting above this value. However, the RDWP does not provide a strategy for managing the water quality requirement as part of the RD process other than stating a treatability study is likely. Provide a complete strategy for RD regarding the water quality RAO.	
42	Section 3.6.2.1 (1st bullet), Page 19, pdf pg. 27	Respondent should elaborate on anticipated effluent testing to inform RD.	
43	Section 3.6.2.2, Page 20, pdf pg. 28	Add effluent discharge erosion control among list for water treatment and discharge design.	
44	Section 3.7, Page 21, pdf pg. 29	Include excavation sequencing as part of excavation material handling design, e.g., utilizing the southern impoundment for processing/handling prior to transport-disposal for northern impoundment removal operations.	

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45	Section 3.7.1, Page 21, pdf pg. 29	The excavation material handling approach described for the northern impoundment reiterates the intention to consider in-wet excavation, in this case conditional upon "if in-dry excavation cannot reliably achieve water quality ARARs". Water treatment and effluent discharge in compliance with water quality ARARs will be necessary for any sediment removal approach undertaken for site.	
46	Section 3.7.2, Page 21, pdf pg. 29	As stated previously in comments, if the Respondent includes in-wet removal approaches as part of the RD process, this will need to be performed in parallel with in-dry removal design (including appropriate PDI data collection) to include in the 30 percent design deliverable for EPA consideration.	
47	Section 3.8 (1st paragraph), Page 22, pdf pg. 30	As a component of the 30 percent design deliverable (and developed appropriately in subsequent design), the Respondent will need to coordinate with disposal facilities both regionally and further afield as needed, to identify those facilities that can accept dioxin and PCB-waste materials and sediment, as well as specific geotechnical requirements for acceptance. This work will need to occur as part of the Treatability Study Work Plan process to confirm that the scope of treatability testing will be demonstrating waste materials and sediment will effectively meet the range of disposal facility requirements.	
48	Section 3.8 (2nd paragraph), Page 22, pdf pg. 30	As a component of the 30 percent design deliverable, the Respondent will need to identify all applicable transload and transportation approaches applicable to the site, and provide advantages/disadvantages for EPA consideration.	
49	Section 4, Page 23, pdf pg. 31	Updating background surface water quality for post-Hurricane Harvey conditions at the site and in the San Jacinto may be important data to use as part of discussions regarding the water quality ARARs with respective agencies.	

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50	Section 4.1 (northern impoundment sub-bullets), Page 23, pdf pg. 31	For northern impoundment sub-bullets, include hydrodynamic characterization to provide necessary updates to the existing hydrodynamic model, to support design of scour protection adjacent to engineering controls and assessment of impacts to sediment transport for sediment in the river channel adjacent to the impoundments.	
51	Section 4.2 (1st paragraph), Page 23, pdf pg. 31	Clarify if quarterly bathymetric data includes all submerged project areas in its extent including northern impoundment and adjacent riverbed area, southern impoundment adjacent riverbed area, and Sand Separation Area and adjacent riverbed area. Clarify if quarterly bathymetric data produces high resolution multi-beam bathymetry that is surveyed utilizing a licensed surveyor-verified monument or similarly established series of survey control points. EPA reserves the right to require additional bathymetric data for RD, surveyed in conjunction with proposed topographic data, established according to survey control points installed for the project's RD and RA construction.	
52	Section 4.2 (2nd paragraph), Page 23, pdf pg. 31	A higher quality topographic survey of areas above river surface water elevation will be needed for RD; additionally, survey control points for use in the RD and RA construction will be needed. The RDWP will need to address whether additional geophysical survey or subsurface investigations be proposed along the alignment of engineering controls in the event pre-trenching through riprap, debris, or removal of obstructions is necessary.	
53	Section 4.2, Page 24, pdf pg. 32	Structural surveys are identified as being part of Phase 2 PDI activities; however, Phase 1 PDI activities should include an inventory of structures within or adjacent to removal areas, and a baseline structural survey by a structural engineer to identify basic	

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		structure type, condition of structures according to standard of practice requirements and classifications, as well as including appropriate land survey to document position of structures for existing conditions drawings and to inform RD.	
54	Section 4.3 (2nd bullet), Page 24, pdf pg. 32	Prior to the PDI Work Plan completion, the RD process will need to include best efforts to locate utilities that may cross engineering control alignments and excavation areas, including desktop study to best inform scoping for utility location/utility mapping.	
55	Section 4.3 (3rd bullet), Page 24, pdf pg. 32	The Respondent will need to provide early development of property ownership maps, status of property use and projected use during RD, and identification of property owner point-of-contact information for access coordination through the RD process and RA construction.	
56	Section 4.3 (4th bullet), Page 24, pdf pg. 32	PDI activities that include collection of shear strength data to inform RD utilizing in-situ methods such as vane shear testing, should be accompanied by relatively undisturbed sampling and laboratory testing of shear strength.	
57	Section 4.3 (final paragraph), Page 25, pdf pg. 33	Reviewer agrees with statement that potential locations for the material processing/transfer facilities planned for assessment and coordination with other design components early in the design process, and incorporated into RD deliverables. Please clarify this will be included within the 30 percent design deliverable for EPA's consideration.	
58	Section 4.5.1 (paragraph following first set of bullets),	Second sentence identifies that supplemental information is needed along the potential barrier alignment. Please clarify first phase vs. second phase data collection, because first phase will need to include sufficient information to determine if pre-trenching will be necessary along alignment, and for providing initial data earlier in the RD process than a second phase of PDI, to preliminarily size the barrier system.	

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	Page 26, pdf pg. 34		
59	Section 4.5.1 (last set of bullets), Page 26, pdf pg. 34	Please clarify why post-Hurricane Harvey data collection is not proposed as part of the hydrodynamic modeling for RD. An ADCP transect to confirm conditions are consistent with prior site data collection may be appropriate. Integrating updated high resolution multi-beam bathymetry is an essential part for RD of a dynamic system. Also, the RDWP does not describe the hydrodynamic model updates that will be required for the RD process, such as taking into account new bathymetry and surface sediment conditions. Prior modeling may not have included the model setup considerations such as grid sizing and/or data set supporting design-level decision making a removal remedy with engineering controls involved, and therefore further clarification of justifications for Respondent's RDWP proposed approach to this model and these data needs should be provided for EPA consideration.	
60	Section 4.4, Page 25, pdf pg. 33	The RDWP will need to identify the Respondent's approach to confirm the applicability of historical data based on changes that occurred from hurricane events that may have altered surface sediment conditions in the northern impoundment and in the river surrounding the impoundments. The RDWP will need to identify newly proposed PDI activities to establish nature and extent of remediation in the river sediment surrounding impoundments.	
61	Section 4.5.1 and Section 4.5.2	Geotechnical data collection for the impoundments are acknowledged to be needed to facilitate barrier structural and geotechnical design, referring specifically to proximity to adjacent structures, but please clarify that these systems are also to be selected and designed based on excavation depths adjacent to structures.	

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62	Section 4.6.2 (first set of bullets; last four), Page 28, pdf pg. 36	The RDWP states effluent treatment data needs are associated with development of polymer needs, quality of effluent after unit processes of filtration, GAC treatment, but the discussion does not elaborate on treatability study strategies to demonstrate best available technologies to achieve TSWQS. Proposed treatability studies, schedule, and advantages/disadvantages should be provided for EPA consideration.	
63	Section 4.7 (1st paragraph), Page 29, pdf pg. 37	Paint filter testing and geotechnical index tests are identified for assessment of treatability of material transport and management to disposal facilities. Additional geotechnical testing beyond index testing should be provided, particularly for disposal facilities that have geotechnical requirements that will require improved geotechnical properties for sediment and impoundment waste materials, e.g., shear strength should be used to compare properties of amendments and different dosage levels, along with ASTM D 6103 using a sand cone apparatus for relative slump measurements for observing relative consistency and flow conditions as a function of moisture content reduction and strength improvements from increasing amendments dosages. Please note that some geotechnical laboratories will not be appropriate for receiving dioxin-containing sediment for testing, and thorough vetting with laboratories will be necessary to coordinate the work, to comply with the Respondent HASP.	
64	Section 4.8, Page 29, pdf pg. 37	In conjunction with identification and coordination of regional (and further afield) disposal facilities and their requirements, waste characterization testing will need to accompany treatability testing approaches to confirm suitability for landfill disposal. Therefore, the desktop study to identify disposal facilities will need to be performed prior to, or in conjunction with, work planning for PDI and treatability study activities.	

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65	Section 4.8, Page 29, pdf pg. 37	Clarify statement describing how dioxin-containing sediment will qualify as a Class 1 or Class 2 non-hazardous industrial waste.	
66	Section 4.9, Page 29, pdf pg. 37	The RDWP will need to be prepared to provide appropriate habitat restoration to offset impacts from remedy activities at the site or within the overall study area, based on updated ARARs evaluations, which may require baseline habitat characterization of native plants, ecological and wildlife conditions, both at the site and in the project area to be part of the RD design of post-remedy grades, selection of substrate types, and related design components.	
67	Section 4.9 (top of page), Page 30, pdf pg. 38	Habitat analysis as described in the RDWP will need to performed early in the RD process, and specifically work planning for PDI activities will need to include sufficient advanced planning to define data needs to manage impacts from the remedial action.	
68	Section 4.11, Page 30, pdf pg. 38	Floodplain assessment should utilize HEC-RAS modeling or updates to an existing FEMA model, as this will be more effective with ARARs evaluations and coordination with respective agencies than hydrodynamic models.	
69	Section 4.12, Page 31, pdf pg. 39	The RDWP indicates wetland assessment "may be warranted". Given post-Hurricane Harvey conditions may have altered these conditions, and to provide for more effective coordination and agency review regarding impacts to jurisdictional wetlands, as a Clean Water Action Section 404 ARAR, this assessment including field survey in support of wetland assessment, will be needed for the RD.	
70	Section 5.1.2, Page 32, pdf pg. 40	As previously commented, some treatability study activities should be performed as part of the first phase of PDI activities, earlier in the RD process than has been identified as a deferral to the second phase of the PDI.	

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71	Section 5.1.2 (2nd paragraph; last sentence), Page 32, pdf pg. 40	Awkward wording, please clarify. Identify advantages/disadvantages for performance of treatability study activities in the first phase of the PDI.	
72	Section 5.1.2 (1st paragraph), Page 33, pdf pg. 41	The Respondent will need to further examine the performance of treatability studies, or initial planning level treatability studies in the first phase of PDI activities, to be followed by scoping and execution of remaining treatability studies in the second phase of PDI activities (if scoping treatability studies depends upon a complete data set from PDI phases one and two). It is unclear why some initial treatability study to inform the RD process should not take place per the ROD required schedule, to be included as part of the draft TSWP due to USEPA within 60 days after receipt of USEPA comments on the RDWP.	
73	Section 5.1.3.3 (1st sentence), Page 34, pdf pg. 42	Clarify "as needed". New activities are likely to be involved in RD data collection, which would require a HASP update.	
74	Section 5.2 (3rd bullet), Page 35, pdf pg. 43	Description of permit requirements should be part of an updated ARARs evaluation with ongoing consultation with respective agencies occurring early in the RD process, and continuing throughout, until requirements for the design have been established.	
75	Section 5.2.1 (bullet items),	Include a Navigation Plan outline, or comparable design level information identifying anticipated coordination activities and related requirements the RA contractor will need to address.	

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	Page 35, pdf pg. 43		
76	Section 5.2.4, Page 36, pdf pg. 44	Supporting plans will need to include Contingency Plan documenting response actions that will be required following infrequent events that will not be directly within the design documents for the RA contractor, such as stated in earlier sections of the RDWP, and as provided in these comments regarding post-flooding activities that must occur prior to resuming RA construction operations.	
77	Section 5.2.4.2, Page 37, pdf pg. 45	Section 5.2.4.2 discusses development of monitoring plans. This section should include description of the purpose/data quality objectives of monitoring activities (i.e. support for MNR, tissue characterization and general indicator, monitoring during construction). Discussion of the general purpose and scope (in terms of media targeted) should be added for the respective data quality objective.	
78	Section 5.2.4.2 (last bullet item), Page 37, pdf pg. 45	Clarify proposed additional monitoring and data collection actions regarding the stated "groundwater contaminant plume movement".	
79	Section 5.2.4.3, Page 37, pdf pg. 45	The CQA/QCP document will need to include compliance monitoring for meeting requirements identified from ARARs coordination with respective agencies.	

San Jacinto River Waste Pits Superfund Site
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80	Section 5.2.4.7 (2nd bullet), Page 39, pdf pg. 47	Properties that are known to require institutional controls may be appropriate to identify as part of PDI planning efforts to include a boundary survey by a licensed surveyor to provide property information as indicated in the RDWP as part of the PDI activities.	
81	Section 6 (Table 6-1), Page 40, pdf pg. 48	As stated in prior comments, Treatability Study Work Plan activities would be feasible per the ROD required schedule, or structure in two phases similar to the proposed approach for the PDI.	
82	Section 6 (Table 6-1), Page 40, pdf pg. 48	Please confirm that the 150 days after USEPA approval of the First Phase PDI Work Plan is consistent with the requirements of the ROD.	
83	Section 7.3.2	The Respondent will need to be prepared for the following meetings, as a minimum: PDI and TS scoping meeting covering both phases of investigation and testing activities, meetings following major design deliverables to discuss results, TWG review.	
84	Figures	Figures, for example, Figure 2-4 through 2-6 should include data results outside the impoundments in the event the extent of removal will include adjacent areas.	
85	Figure 2-7	A concrete-paved property occurs on the southern impoundment. How will the RD process manage this area of the site? This should be addressed within appropriate sections in the RDWP.	